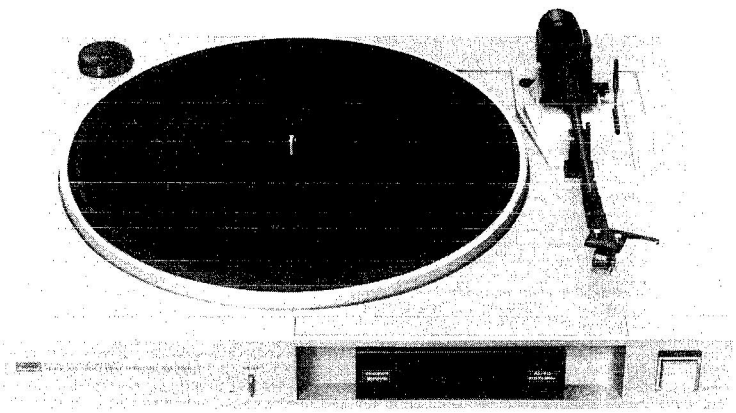
SERVICE MANUAL

DA-T500 Hi-Fi System
AUTOMATIC DIRECT DRIVE TURNTABLE

SANSUI DA-P500
(Silver & Black Model)



Sansui

SANSUI ELECTRIC CO., LTD.

•SPECIFICATIONS

Type	Two-speed direct-driven
Speeds	33-1/3, 45 rpm
Platter	Aluminum alloy die-cast 304 mm (12") diameter
Motor	FG Servo DC Motor
Wow and flutter	0.038% (W.R.M.S.)
S/N	Better than 60 dB (IEC-B)
Rumble	Better than 72 dB (DIN-B)
Tonearm	
Tonearm length	220 mm (8-11/16")
Overhang	17.5 mm (3/4")
Applicable cartridge weight	4 to 9g
Cartridge: Model SC-80	
Output voltage	2.5 mV per channel (1,000 Hz, 50 mm/sec)
Load impedance	47 kΩ
Tracking force	2.5g
Dimensions	430 mm (16-29/32") W 120 mm (4-23/32") H 360 mm (14-3/16") D
Weight	3.8 kg (8.4 lbs) net 4.6 kg (10.1 lbs) packed
Power conumption	2.5W (DC 15V)

* **Design and specifications subject to changes without notice for improvements.**

CAUTION

1. Some printed circuit boards are not supplied as the assembled. To separate these in this service manual, the stock No's are not indicated at the ends of the board names. However, the individual parts on the circuit boards are provided by orders.

2. Since some of capacitors and resistors are omitted from parts lists in this service manual, refer to the Common Parts List for capacitors & resistors, which was issued on February 1983.

3. Abbreviations in this service manual are as follows.

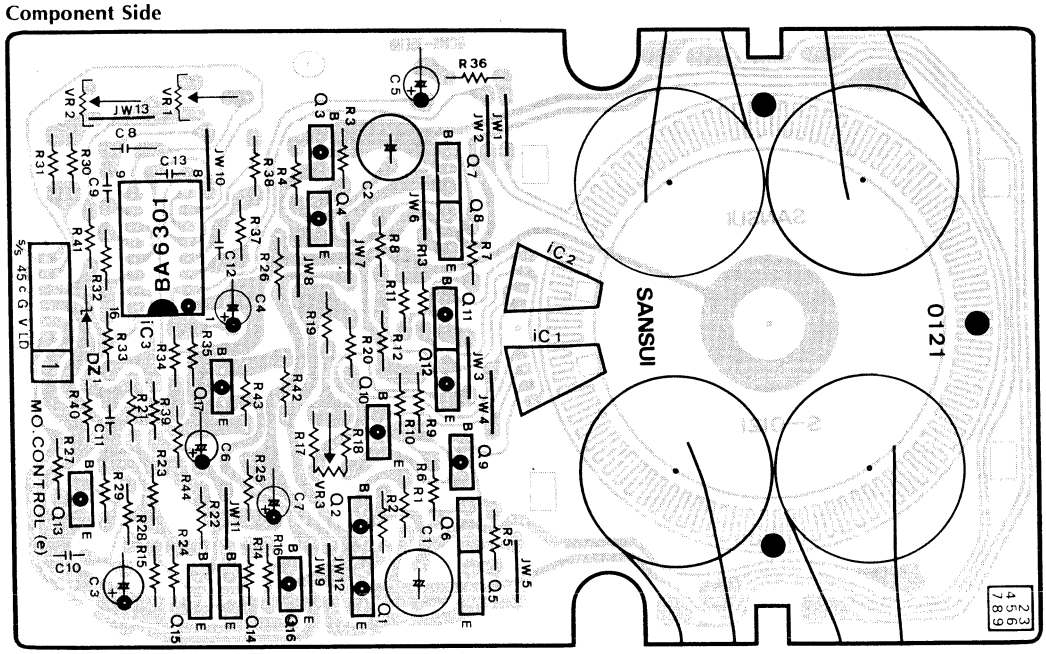
•Abbreviations List

C.R.	: Carbon Resistor	E.B.	: Bi-Polar Electrolytic Capacitor
S.R.	: Solid Resistor	E.B.L.	: Low Leak Bi-Polar Electrolytic Capacitor
Ce.R.	: Cement Resistor	Ta.C.	: Tantalum Capacitor
M.R.	: Metal Film Resistor	F.C.	: Film Capacitor
F.R.	: Fusing Resistor	M.P.	: Metalized Paper Capacitor
N.I.R.	: Non-Inflammable Resistor	P.C.	: Polystyrene Capacitor
A.R.	: Array Resistor	G.C.	: Gimmic Capacitor
C.C.	: Ceramic Capacitor	A.C.	: Array Capacitor
C.T.	: Ceramic Capacitor, Temoerature Compensation	V.R.	: Variable Resistor
E.C.	: Electrolytic Capacitor	S.V.R.	: Semi Variable Resistor
E.L.	: Low Leak Electrolytic Capacitor	SW.	: Switch

1. PARTS LOCATION & PARTS LIST

1-1. S-0121 Motor Control Circuit Board

Component Side



Parts List

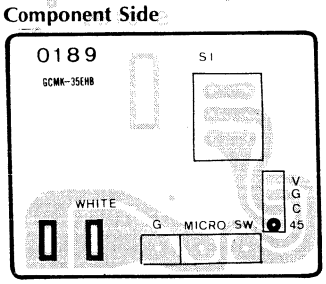
Parts No.	Stock No.	Description
•Transistor		
eQ1	46359701	2SA952
eQ2	46359701	2SA952
eQ3	46359701	2SA952
eQ4	46359701	2SA952
eQ5	46359801	2SC2001
eQ6	46359801	2SC2001
eQ7	46359801	2SC2001
eQ8	46359801	2SC2001
eQ9	46367401	2SA733A
	or 46367001	2SA1115
	or 46367201	2SA1048
eQ10	46367401	2SA733A
	or 46367001	2SA1115
	or 46367201	2SA1048
eQ11	46367401	2SA733A
	or 46367001	2SA1115
	or 46367201	2SA1048
eQ12	46367401	2SA733A
	or 46367001	2SA1115
	or 46367201	2SA1048
eQ13	46367401	2SA733A
	or 46367001	2SA1115
	or 46367201	2SA1048
eQ14	46367501	2SC945A
	or 46367101	2SC2603
	or 46367301	2SC2458
eQ15	46367501	2SC945A
	or 46367101	2SC2603
	or 46367301	2SC2458
eQ16	46614001	2SA1283
eQ17	46367402	2SA733A
	or 46367001	2SA1115
	or 46367201	2SA1048
•IC		
eIC1	46354301	H-300BC
	or 46354302	H-300BC
eIC2	46354301	H-300BC
	or 46354302	H-300BC
eIC3	46354400	BA6301

Parts List

Parts No.	Stock No.	Description
•Zener Diode		
eDZ1	46113900	05Z12-Y
eR41	46639000	240kΩ 1/4W M.R.
eC1	08451100	22μF 16V E.B.
eC2	08451100	22μF 16V E.B.
eVR1	46366600	100kΩ (B) S.V.R., speed adj. 33-1/3 rpm
eVR2	07241700	200kΩ (B) S.V.R., speed adj. 45 rpm
eVR3	07241000	1kΩ (B) S.V.R., wow & flutter adj.

1-2. S-0189 Speed SW. Circuit Board

Component Side

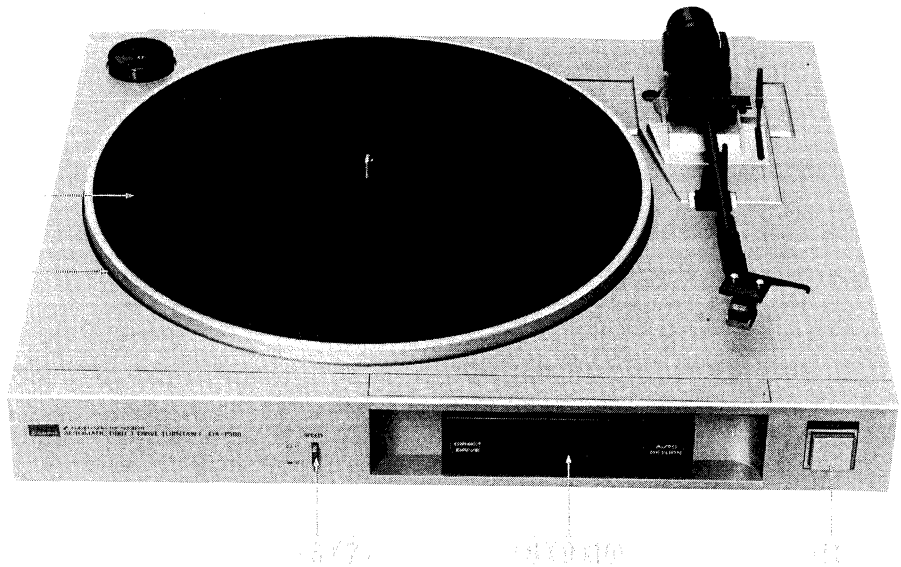


Parts List

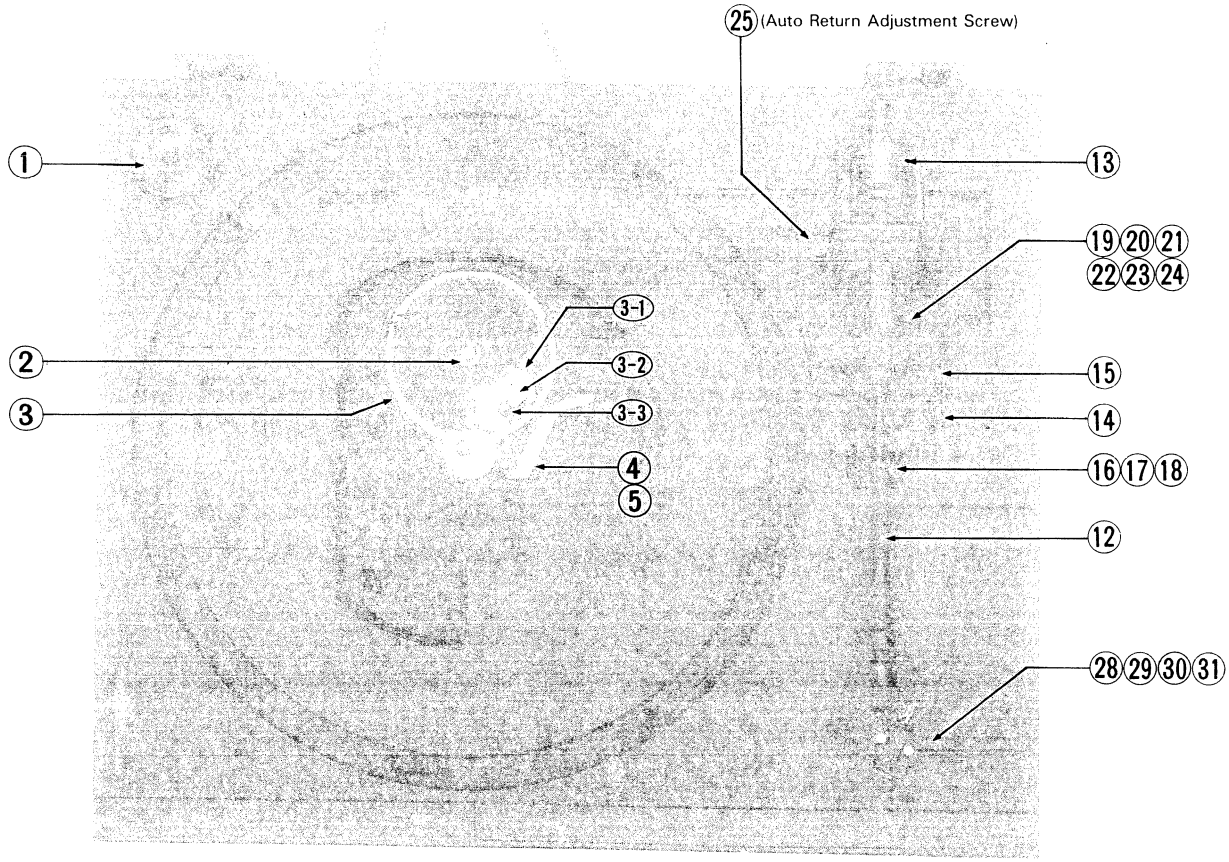
Parts No.	Stock No.	Description
gSW1	46368500	Push SW., SPEED

2. OTHER PARTS

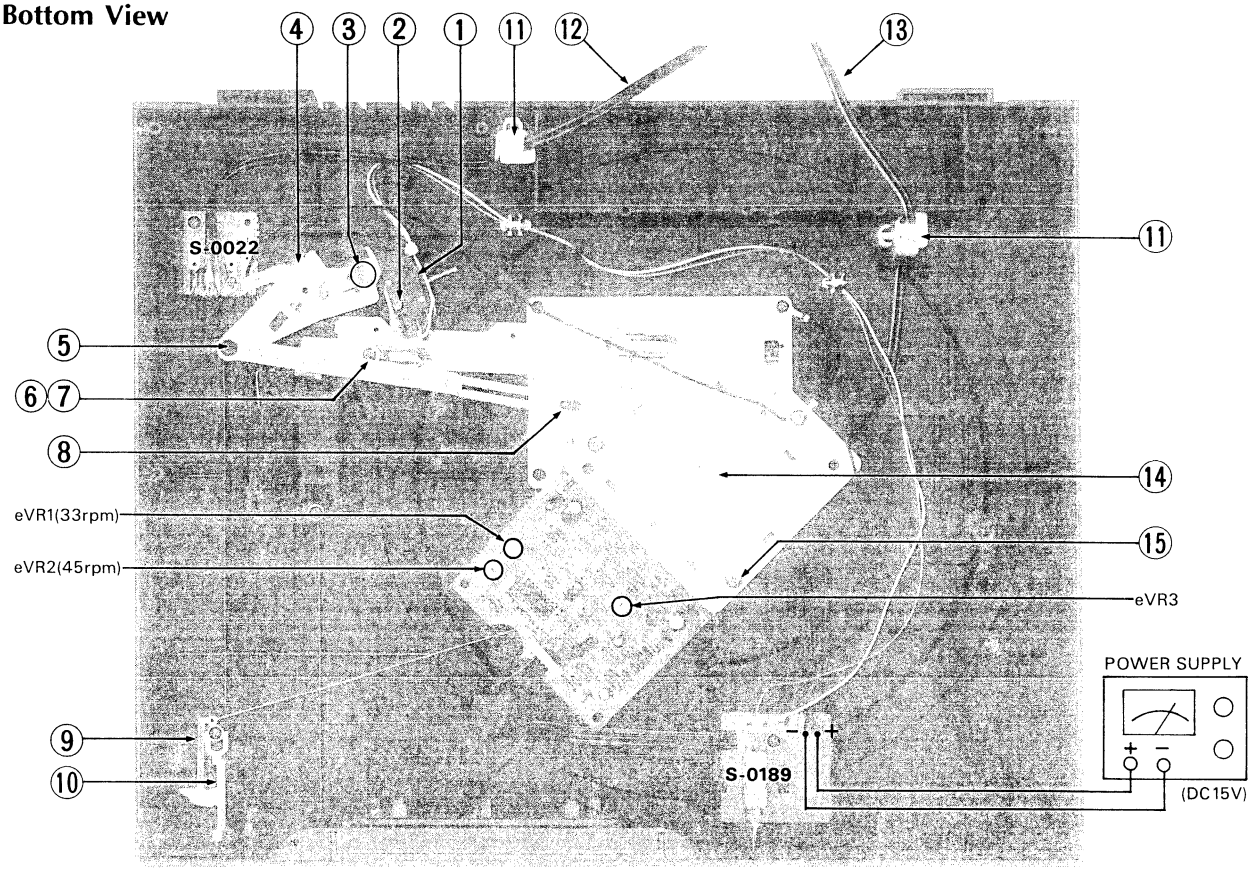
2-1. Front View



2-2. Top View



2-3. Bottom View



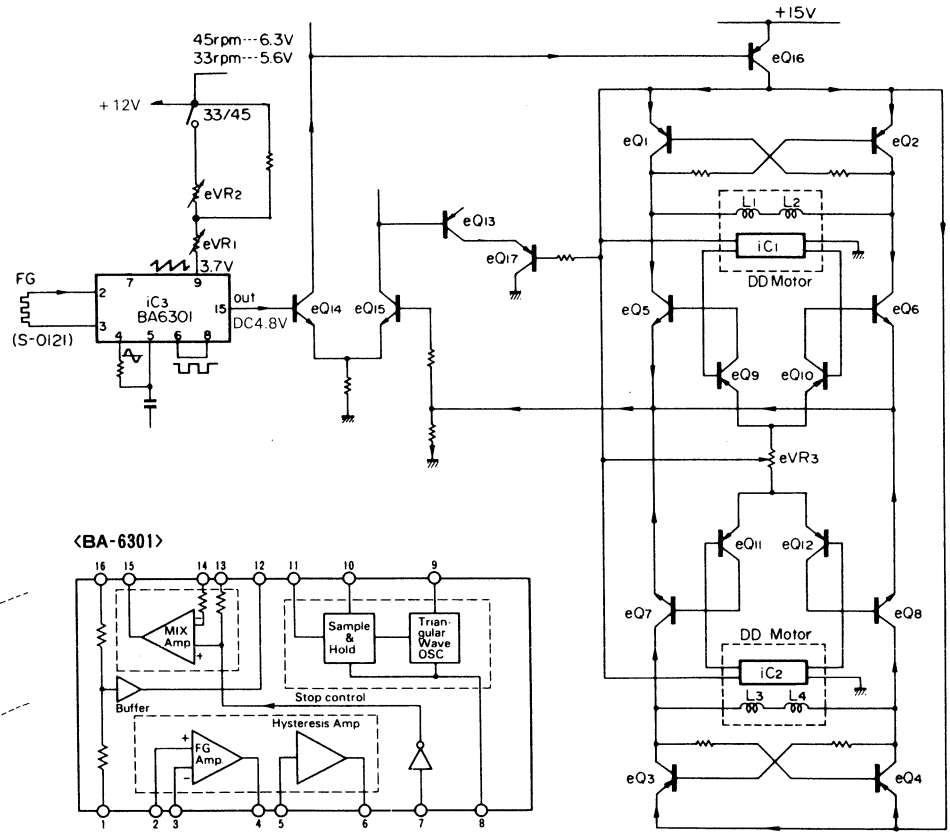
Parts List <Front View/Top View>

Parts No.	Stock No.	Description
1	13012300	45 r.p.m Adaptor
2	00489400	E Ring 5φm main gear
3	13017200	Main Gear
3-1	—	Lower Trip
3-2	—	Upper Trip
3-3	51822900	CS Type Washer, 3φ
4	13136400	Reject Arm
5	13143400	Tension Spring, reject arm
6	46368500	Push SW., SPEED
7	47393200	Push Knob, SPEED
8	13234800	Indicator Case Cover
9	13235000	Indicator Plate
10	13164300	Indicator Holder
11	13142100	Push Knob, CUT (Silver Model)
	13142200	Push Knob, CUT (Black Model)
12	13176300	Tone Arm Ass'y
13	13176700	Main Weight Ass'y
14	13013500	Lifter Knob
15	13138300	Lifter Lever Ass'y
16	13138700	Arm Rest
17	13138500	Fook, arm rest
18	13167700	Binding Head Tapping Screw, M2×5
19	13138200	Lifter Plate
20	13035600	Spring, 5.3φ×10 mm (C)
21	13035700	Spring, 9.3φ×14 mm (E)
22	00466500	P Type Washer 3φ×10
23	13011600	Elevation Chip
24	13038010	Binding Head Tapping Screw M3×16
25	50624800	Cap for auto return adjustment
26	13140800	Turntable Sheet
27	13147210	Turntable Platter
28	13176600	Head Sheel Ass'y
29	13198200	Cartridge, SC-80
30	13198100	Stylus, SN-80
31	51921500	Screw Ass'y

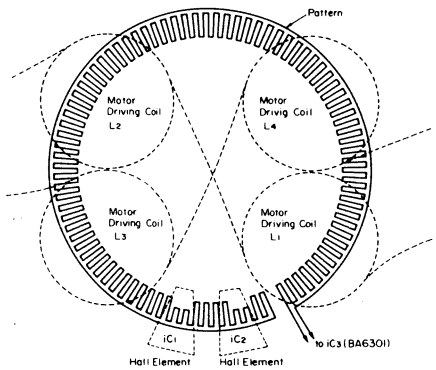
Parts List <Bottom View>

Parts No.	Stock No.	Description
1	11602500	Micro Switch
2	13143710	Screw, micro switch
3	13038010	Pan Head Tapping Screw M3×16 (Adjusting Screw)
4	69034400	Spring, PU Plate
5	13143000	Push Pin
6	13038210	Screw, Slide arm
7	00467100	P Type Washer 5φ×10×1.0
8	13051900	Steel Ball 5φ
9	13136700	Reject Lever (3)
10	13038300	Reject Lever (1)
11	07254700	Strain Relief
12	13234400	PU Output Cord
13	13234300	DC Power Cord
14	18028700	SSD703A DD Motor Ass'y with control circuit board (S-0121)
15	08320700	Brazier Head Tapping Screw M4×12
	13153500	Insulator

3. BLOCK DIAGRAM



Parttern drawing motor section
(S-0121 Motor Control Circuit Board)



4. ADJUSTMENTS <For this Adjustments, combined model DA-T500 or regulated DC power supply is required.>

- **Preseting**
  If DA-T500 is used, connect DC power cord of the unit to DC OUT jack of DA-T500.
  If regulated DC power supply is used, connect it to the unit as Bottom view on page 4.

4-1. Adjustment of the Auto Return

1) The adjusting screw in top view is one to adjust the position of Auto . Return when stylus reaches lead-out groove.
2) Make adjustment of the screw in such a way that stylus lifts up automatically around the middle way of lead-out groove.
   Namely turn the adjusting screw clockwise is for leading and counterclockwise if for lagging.
3) After adjusting the screw properly, check its operation a few times.

4-2. Adjustment of the Clearance between PU plate and Micro Switch

After replacing the micro switch, adjust the clearance between PU plate and micro switch (See Fig. 4-1) to be approximately 0.3 mm at the tonearm on the arm rest by the clearance adjusting cam.

4-3. Adjustment of the main gear

When the main gear makes abnormal mechanical noise caused by touching to the pinion gear during playing record disc, adjust its position with cam 2 to make even clearance between the circuilar arc portion of the main gear and the pinion gear.

4-4. Adjustment of cartridge mounting position

Adjust the cartridge mounting position as shown in Fig. 4-2.

4-5. Speed Adjustment

•See Bottom View on page 4.

STEP	SPEED SELECTOR	ADJUST	ADJUST FOR
1.	33-1/3 r.p.m.	kVR1 (S-0121)	Strobo marking pattern appears to stand still.
2.	45 r.p.m.	kVR2 (S-0121)	Same as above

Note: Set kVR3 (S-0121) center position.

Fig. 4-1

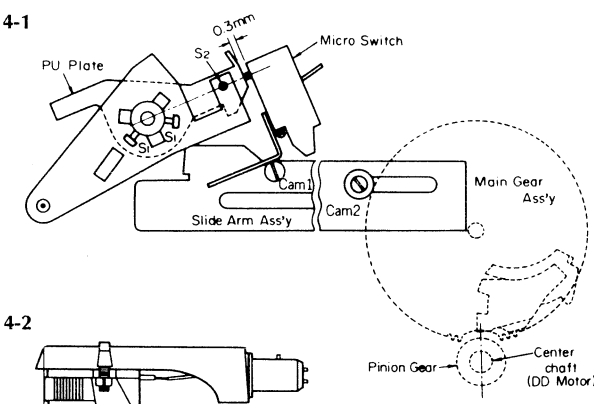
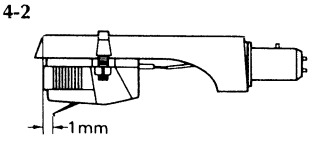


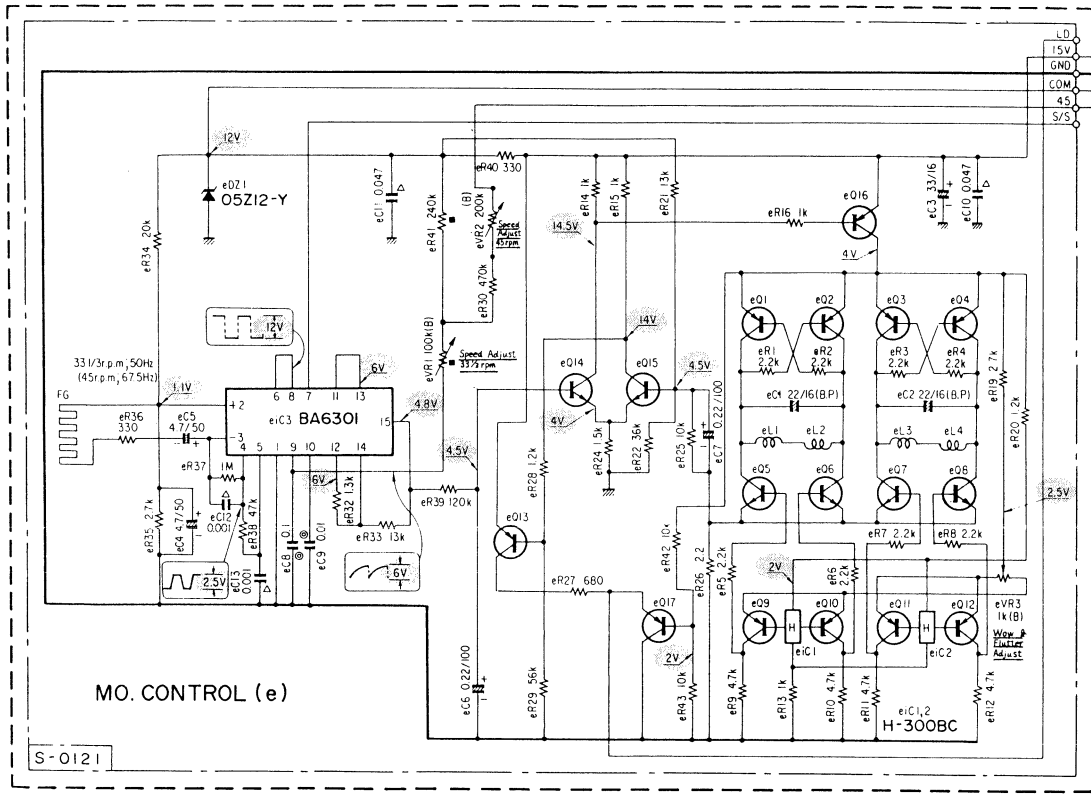
Fig. 4-2



A	B	C

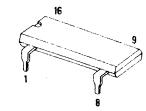
5. SCHEMATIC DIAGRAM

*Design and specifications subject to change without notice for improvement.
*La présention et les spécifications sont susceptibles d'être modifiées sans préavis par suites d'améliorations éventuelles.
*Anderungen, die dem technischen Fortschritt dienen, bleiben vorbehalten.

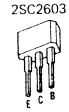


2SA733
2SA952
2SA1015
2SA1048
2SA1115
2SA1283
2SC2001
2SC2458
2SC945A

BA6301



2SC2603



eQ1~4	2SA952 M,L
eQ5~8	2SC2001 M,L
eQ9~12	2SA733A Q,P
	2SA1115 E,F
	2SA1048 Y,GR
eQ13	2SA733A P
	2SA1115 F
	2SA1048 GR
eQ14,15	2SC945A P
	2SC2603 F
	2SC2458 GR
eQ16	2SA1283 E
eQ17	2SA733A P
	2SA1115 F
	2SA1048 GR

RESISTORS
Are in ohms, 1/4 Watts, ± 5% Tolerance
Unless Otherwise Noted. k: kΩ, M: MΩ

CAPACITORS
Are in μF, Unless Otherwise Noted. P: pF

SYMBOL

△	Ceramic
△T	Ceramic (Temperature Compensation)
△F	Ceramic (Feed Through)
◒	Low-Leak Electrolytic
(B.P)	Bi-Polar Electrolytic
◒(B,P)	Low-Leak Bi-Polar Electrolytic
(To)	Tantalum Electrolytic
◎	Film
◎(m)	Mylar
◎(P.C)	Polycarbonate
◎(P.P)	Polypropylene
◉	Metalized Paper
⊗	Polystyrene
▲	Gimmic
Mic	Mica
O.C	Oil

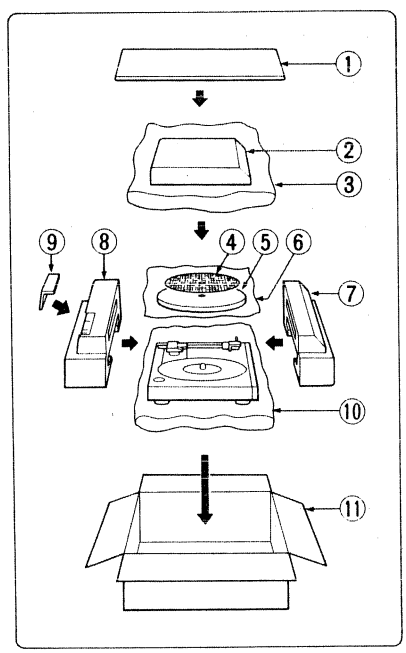
Each D.C. Voltage measured by the instruments discribed below shows the nominal value in volts at 33 1/3 r.p.m
Measuring instruments
Volt Meter DC 20kΩ/V, AC 1kΩ/V
Osciloscope 5MHz

1 2 3 4

6. PACKING LIST

Parts List

Parts No.	Stock No.	Description
1	—	Protector Board
2	13142400	Dust Cover Ass'y
3	—	Polyethylene Bag, dust cover Ass'y
4	13140800	Turntable Sheet
5	13147210	Turntable Platter
6	91166000	Polyethylene Bag, turntable Platter
7	13170400	Styrofoam Packing, front
8	13170500	Styrofoam Packing, rear
9	—	Accessories Cover
10	91122710	Polyethylene bag, turntable unit
11	13234100	Carton Case (DA-P500) <Silver Model>
	13234200	Carton Case (DA-P500) <Black Model>
	13236200	Carton Case (DA-P500 M) <Silver Model>
	13236300	Carton Case (DA-P500 M) <Black Model>



7. ACCESSORY LIST

Stock No.	Description
13142600	Auto Hinge, dust cover Ass'y
13176700	Main Weight Ass'y

•**Note:** There are two types of unit in DA-P500.
1) The unit with a Dust Cover Ass'y.
2) The unit without a Dust Cover Ass'y.
("M" mark is indicated on the Carton Case.)

Sansui

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Printed in Japan <Stock No. 36484700>